

**Notice of Allowability**

Application No.	Applicant(s)
10/009,128	CORREIA ET AL.
Examiner	Art Unit
Lana N Le	2685

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to 02/26/02.
2.  The allowed claim(s) is/are 1-129.
3.  The drawings filed on 26 February 2002 are accepted by the Examiner.
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All
  - b)  Some\*
  - c)  None of the:
  1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6.  CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 120501
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

***REASON FOR ALLOWANCE***

1. Claims 1-129 are allowable over the cited prior art.
2. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, Sousa et al (US 5,832,044) disclose diversity transmission method for transmitting a transmission signal in a wireless communication system, comprising the steps of:

- c) transmitting a first set of signals using a first diversity transmission scheme (col 3, lines .
  - a) dividing said transmission signal into a plurality of vector components (col 3, line 30-44);
  - b) applying an orthonormal transformation to said plurality of vector components (col 3, lines 63-65).

However, the cited prior art fails to further disclose:

- d) transmitting a first set and a second set of said subsignals using a first and a second diversity transmission scheme respectively, said second diversity transmission scheme being different from said first diversity transmission scheme.

Regarding claim 18, Sousa et al (US 5,832,044) disclose a transmitter for a diversity transmission system for transmitting a transmission signal in a wireless communication system, comprising:

- a) dividing means adapted to divide said transmission signal into a plurality of vector components (col 3, lines 30-44);
- b) transforming means (orthogonal transforming means) adapted to apply an orthonormal transformation to said plurality of vector components (col 3, lines 63-65).

However, the cited prior art fails to further disclose:

- c) transmitting means adapted to transmit a first set of the subsignals using a first diversity transmission scheme, and transmitting a second set of said subsignals using a second diversity transmission scheme different from said first diversity transmission scheme.

Regarding claim 23, Sousa et al (US 5,832,044) disclose a receiver for a diversity transmission system, for receiving a transmission signal in a wireless communication system, comprising:

receiving means adapted to receive a transmission signal comprising a first set of vector components transmitted by using a first diversity transmission scheme (col 6, lines 46-47; col 5, lines 60-61; fig. 2).

However, the cited prior art fails to further disclose:

- a) receiving means adapted to receive a transmission signal comprising a first set of transmitted subsignals by using a first diversity transmission scheme, and a second set of subsignals transmitted by using a second diversity transmission scheme different from said first diversity transmission scheme; and

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b) decoding means adapted to decode said transmission signal by deciding on a maximum likelihood between the received subsignals and corresponding estimated subsignals.

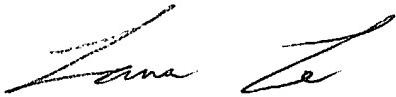
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lana N Le whose telephone number is (703) 308-5836. The examiner can normally be reached on M-F.

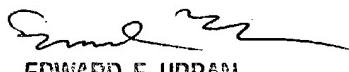
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F Urban can be reached on (703) 305-4385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Lana Le

December 20, 2004



EDWARD F. URBAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600